



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,263	12/28/2005	Young-shig Shim	122996-05167030	3413
22429 7590 01/24/2008 LOWE HAUPTMAN HAM & BERNER, LLP 1700 DIAGONAL ROAD SUITE 300 ALEXANDRIA, VA 22314			EXAMINER DUNWIDDIE, MEGHAN K	
			ART UNIT 2875	PAPER NUMBER
			MAIL DATE 01/24/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/562,263

Applicant(s)

SHIM ET AL.

Examiner

Meghan K. Dunwiddie

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12 and 14-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This Office Action is a Non-Final Rejection in response to the amendment received on December 13, 2007 by **Shim** et al.

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-3, 5-12, and 14-17 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-8, 10-12, and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Campbell** et al. (US 6354709) in view of **Mullen** et al. (US 2005/0141243).

4. Regarding Claim 1, **Campbell** et al. shows a prism sheet of a backlight unit for an LCD, the prism sheet having:

- A structural surface on one side thereof and a flat surface opposing the structural surface on another side thereof, the structural surface including a linear arrangement of right-angled isosceles triangular prisms arranged

in parallel and configured to form a plurality of peaks and valleys, each of the prisms having perpendicular surfaces that slant by an angle of approximately 45 degrees with respect to the flat surface [See column 3 lines 1-13 in reference to Figure 2],

- Wherein the structural surface of at least one of the prism sheets is configured to have non-planar peaks with a maximum height and a minimum height along a length direction of the peak, and a curved layer having the same cycle as a cycle of height variation of the peak is formed at a boundary surface between the structural surface and the flat surface so as to maintain the right-angled isosceles triangular prisms formed due to a difference between the highest point and the lowest point of each of the peaks to have a predetermined size so that a distance between the valleys is uniform along the length direction [See column 5 lines 5-39 in reference to Figure 5].

5. Regarding Claims 2 and 11, **Campbell** et al. shows:

- Wherein the peak is shaped in a streamline curvature in which a difference between the maximum height to the minimum height is shown in a fluent curvature [See Figures 8 and 10].

6. Regarding Claims 3 and 12, **Campbell et al.** shows:
  - A streamline curvature formed due to a difference between heights of the peaks has a cycle, which is repeated periodically or non-periodically [See Figures 8 and 10].
7. Regarding Claims 5 and 14, **Campbell et al.** shows:
  - The prism sheet is made of transparent and flexible polymer film [See column 3 lines 14-23].
8. Regarding Claims 6 and 15, **Campbell et al.** shows:
  - The polymer film is made of any one polymer selected from the group consisting of acrylate, polycarbonate, polyester, and polyvinyl chloride [See column 3 lines 14-23].
9. Regarding Claims 7 and 16, **Campbell et al.** shows:
  - The polymer film is multi-layer film in which acrylate is laminated on polycarbonate [See column 5 line 58-67 – column 6 line 21].
10. Regarding Claims 8 and 17, **Campbell et al.** shows:
  - The polymer film is a multi-layer film in which acrylate is laminated on polyester [See column 5 line 58-67 – column 6 line 21].

11. Regarding Claim 10, **Campbell** et al. shows:

- Two or more prism sheets which prisms are crossed with each other by a predetermined angle, each the prism sheets having a structural surface on a side thereof and a flat surface opposing the structural surface on another side thereof, the structural surface including a linear arrangement of right-angled isosceles triangular prisms arranged in parallel and configured to form a plurality of peaks and valleys, each of the prisms having perpendicular surfaces that slant by an angle of approximately 45 degrees with respect to the flat surface [See column 3 lines 1-13 in reference to Figure 2],
- Wherein the structural surface of at least one of the prism sheets is configured to have non-planar peaks with a maximum height and a minimum height along a length direction of the peak, and a curved layer having the same cycle as a cycle of height variation of the peak is formed at a boundary surface between the structural surface and the flat surface so as to maintain the right-angled isosceles triangular prisms formed due to a difference between the highest point and the lowest point of each of the peaks to have a predetermined size so that a distance between the valleys is uniform along the length direction [See column 5 lines 5-39 in reference to Figure 5].

12. **Campbell** et al. does not show:

- The peak has a height variation of 0.125 -2.5 micrometers.

13. **Mullen** et al. teaches:

- The peak has a height variation of 0.125 -2.5 micrometers [See page 6 paragraph [0097] lines 3-7 in reference to Figure 13: (58 and 59)].

14. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the prism sheet of **Campbell** et al. with a prism peak having a height variation of 0.125 – 2.5 micrometers as taught by **Mullen** et al. for the purpose and advantage of creating a randomness of the emitted light ray path.

15. Regarding Claim 9, **Campbell** et al. shows the claimed invention as cited above, but does not specifically teach the prism has a size of 0.127 mm or less.

16. **Mullen** et al. teaches:

- The prism has a size of 0.127 mm or less [See page 7 paragraph [0111] lines 10-13].

17. It would have been obvious for one of ordinary skill in the art, at the time of the invention to provide the prism sheet of **Campbell** et al. with a prism with a height of 0.127 mm or less as taught by **Mullen** et al. for the purpose and advantage of creating a compact prism sheet to be fitted within a backlight.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meghan K. Dunwiddie whose telephone number is (571)272-8543. The examiner can normally be reached on Monday through Friday 8 am-4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571)272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MKD

/Stephen F. Husar/  
Primary Examiner